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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/795,770

03/08/2004

Tomoyuki Hatakeyama

17490

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23389

7590

02/14/2006

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EXAMINER

TAMAI, KARL I

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/795,770

Applicant(s)

HATAKEYAMA ET AL.

Examiner

Tamai I.E. Karl

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2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/12/04; 3/08/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1-11, in the reply filed on 12/05/2005 is acknowledged. Claims 12-15 are withdrawn from consideration.

Drawings

2. Figure 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bonding member comprising only a portion that continuously extends around the electrodes must be shown or the feature canceled from the claim 3. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kaneko (US 2002/0057506). Kaneko teaches an electrostatic drive having an electrode 107 functioning as a mirror on a flexible thin film 106-1 and a holding member 106-2 supported by a bonding spacer 115 above a base 109 and electrode 111.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 2002/0057506) and Kohara et al. (Kohara)(US 5130831). Kaneko teaches every aspect of the invention except the bonding spacer having a bonding member and rigid members. Kohara teaches spherical bonding members having rigid spheres and a resin adhesive layer (col. 16, line 34) where the spheres are spaced/scattered around

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the electrodes and the resin 4 seals the electrodes. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator Kaneko with the spherical bonding spacers of Kohara to maintain a uniform spacing between the layers, as taught by Kaneko.

In regards to the spacially separated bonding member of claim 4, Kaneko teaches the bonding spacer spacially separated around the electrodes.

10. Claim 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 2002/0057506) and Kohara et al. (Kohara)(US 5130831). Kaneko and Kohara teach every aspect of the invention except bonding member being a silicon adhesive which hardens at normal temperature. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator Kaneko with the spherical bonding spacers of Kohara and Kaneko to select a silicon adhesive which hardens at normal temperature to effectively bond the holding member to the substrate, and because it has been held that selection of a material based on the intended use is within the ordinary skill in the art (see *In re Leskin*, 125 USPQ 416).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 2002/0057506) and Kohara et al. (Kohara)(US 5130831), in further view Gee et al. (Gee)(US 6525864). Kaneko and Kohara teach every aspect of the invention except bonding member on a protrusion between the base and the holding member. Gee teaches a bonding member 403 between the base and the holding member of the mirror

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to couple the array and the substrate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator Kaneko and Kohara with the protrusions of Gee to provide a secure coupling of the mirror array to the substrate, as taught by Gee.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 2002/0057506), in further view Gee et al. (Gee)(US 6525864). Kaneko teaches every aspect of the invention except bonding member on a protrusion between the base and the holding member. Gee teaches a bonding member 403 between the base and the holding member of the mirror to couple the array and the substrate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator Kaneko with the protrusions of Gee to provide a secure coupling of the mirror array to the substrate, as taught by Gee.

Allowable Subject Matter

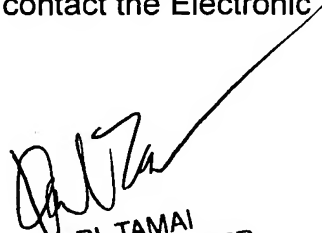
13. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
February 10, 2006



KARL TAMAI
PRIMARY EXAMINER